

## **SCOPE OF WORK**

### **REPLACE AC CONDENSING UNIT AND AIR HANDLING UNIT FOR ADMIN BUILDING HOUSTON NATIONAL CEMETERY, HOUSTON, TX 77038**

- A. The Contractor shall provide all labor, supervision, tools, transportation, equipment, and materials necessary to remove and replace the 15-ton air conditioning (AC) system: outdoor condensing unit and indoor blower (air handling) unit, AHU at Houston National Cemetery, as described herein.
- B. Scope of Work: The Work shall include, but shall not be limited to the following (not necessarily in the order indicated):
1. The Contractor shall pump-down and recover the refrigerant (Freon R22) from both the outside and inside units.
  2. Disconnect, de-pipe, detach, and remove the existing York model K1EU180A33A indoor AHU and existing Carrier model 38AKS016---610 outdoor condensing unit (see Figures 1 and 2). Dispose of old equipment at an offsite disposal site or recycling center in compliance with State and Local ordinances.
  3. Disassemble and salvage protective cage enclosing the outdoor condensing unit. Contractor shall reinstall cage around new condensing unit if dimensions of new unit allow. If dimensions of new unit are larger, COR will take possession of cage.
  4. Provide and install a new matched R410a refrigerant split system in the same general locations as the current. The system shall be the Carrier 38AUZ16/40RU16 or approved equal that provides a system efficiency that meets or exceeds 11.0 EER. The outside condensing unit shall be rated 15 tons and provide at least 172,000 BTU/hour. The inside, DX-type Air Handling Unit (AHU) shall be rated 6000 cubic feet per minute (CFM) and the blower unit shall be field-adjusted to the required air volume for the building. The AHU shall have a fan coil electric heating unit providing at least 141,000 BTU/hr.
  5. Provide and install condensate drain trap, and spring vibration isolators.
  6. Provide and/or connect all necessary piping, electrical conduit and wiring, controls, ductwork, condensate, insulations and necessary appurtenances. Install new filter drier and sightglass, and re-insulate suction piping.
  7. The units shall be tested in accordance with UL standard 1995 by a Nationally Recognized Testing Laboratory (NRTL) and bear either the UL or ETL label. The units shall be rated in accordance with Air-conditioning, Heating, and Refrigeration Institute's (AHRI) Standard 360 and bear the AHRI Certification label. The units shall be stored and handled according to the manufacturer's recommendations.
  8. Connect to the existing 3-phase, 460 volt electrical system. All wiring shall be in accordance with the National Electrical Code (N.E.C.). Start-up system and balance refrigerant charge.
  9. Provide testing, adjusting, and balancing services for the new split system and for all diffusers in the building (about 20) in accordance with the Specifications. Provide a written report with any findings before making adjustments. Original mechanical plans will be provided to the Contractor after award as a basis for evaluating and balancing the system.
  10. The units shall have a manufacturer's parts and defects warranty for a period five (5) year from the date of the original installation. The compressor shall have a warranty of seven (7) years from date of installation.

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11. All debris and packaging shall be properly disposed of by the Contractor to an offsite disposal site or recycling center in compliance with State and Local ordinances.

#### **C. General Conditions:**

1. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the COR before it is disturbed. Materials and workmanship used in restoring work shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
2. Thoroughly clean up the work area at the end of each day's work, and at completion of the project. Leave premises clean and free of waste, scrap, used equipment, or other material intentionally or incidentally delivered to the site by Contractor or Contractor's personnel.
3. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site not to be removed and do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
4. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

#### **D. Standards of Employee Conduct:**

1. The National Cemetery Administration honors veterans with a final resting place and lasting memorials that commemorate their service to our Nation. National Cemeteries are national shrines. The standards of work, appearance, and procedures performed by the contractor at this cemetery shall reflect this nation's concern for those interred there. Due to the sensitive mission of the cemetery, contractor personnel must exercise and exhibit absolute decorum, composure, and stability at all times.
2. Contractor personnel shall be required to adhere to the following standards of dress and conduct, as briefly mentioned here, while performing work in the National Cemetery. These standards and regulations are enforceable under Title 38, U.S.C., Part I, Chapter 9, Section 5901.
3. Clothing shall be presentable and suitable to the work while maintaining proper appearance and decorum indicative for a National Shrine. Uniform shirts and hats are preferred. Clothing shall be clean and cleanliness and personal hygiene are imperative. T-shirts and/or tank tops as outer garments are prohibited. Protective/safety clothing and shoes shall meet or exceed OSHA and state requirements.
4. Behavior and language must be appropriate, reverent, and respectful at all times.

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5. Eating and drinking (except water) is prohibited in the work areas and within sight of a committal shelter during a service.
  6. Use of intoxicating beverages, any tobacco products, and illegal drugs on the Cemetery premises is strictly prohibited.
  7. Contractor personnel shall not lean, sit, or stand on or against headstones or monuments. No tools, equipment or other items will be placed or leaned on headstones or monuments.
  8. The Contractor shall be responsible for maintaining satisfactory standards of personnel conduct and work performance and shall administer disciplinary action as required. The Contractor is expected to remove any employees from the Cemetery for cause, to include, but not limited to, safety violations, other misconduct in performance of duty under these specifications and/or conduct contrary to the best interests of the Government. If the Contractor fails to act in this regard, or the reason for a removal is immediately required to protect the interests of the Government, the COR may direct the removal of an employee from the premises. Contractor objections to any such action will be referred to the Contracting Officer (CO) for final resolution; however, the Contractor will first immediately comply with COR direction pending any CO final resolution at a later time or date. The Contractor will not be due any type of compensation for their costs incurred as a result of an employee being removed for cause; unless the removal is directed by the COR, and is later found invalid and/or unreasonable by the Contracting Officer.
- E. Time of Completion: The project shall be completed within 30 calendar days after contract award.
- F. Contractor Quality Control: Contractor shall provide a Job Site Superintendent who speaks and writes fluent English on site, and at all times when Contractor personnel are on the premises. The Job Site Superintendent will: a) review and approve submittals, b) inspect the quality of work performed, and c) certify the completed work for payment and other purposes.
- G. Submittals After Award: Submit samples, cut sheets, and shop drawings to the COR for review and approval.
- H. POC: The Contracting Officer's Technical Representative (COR) for this project is: Andrew VanMarter.
- I. Project completion: The project site shall be protected and/or restored to a condition equal to that existing prior to the commencement of work. Upon completion of contract, deliver work complete and undamaged. Existing work (lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work

### **END OF SCOPE OF WORK**

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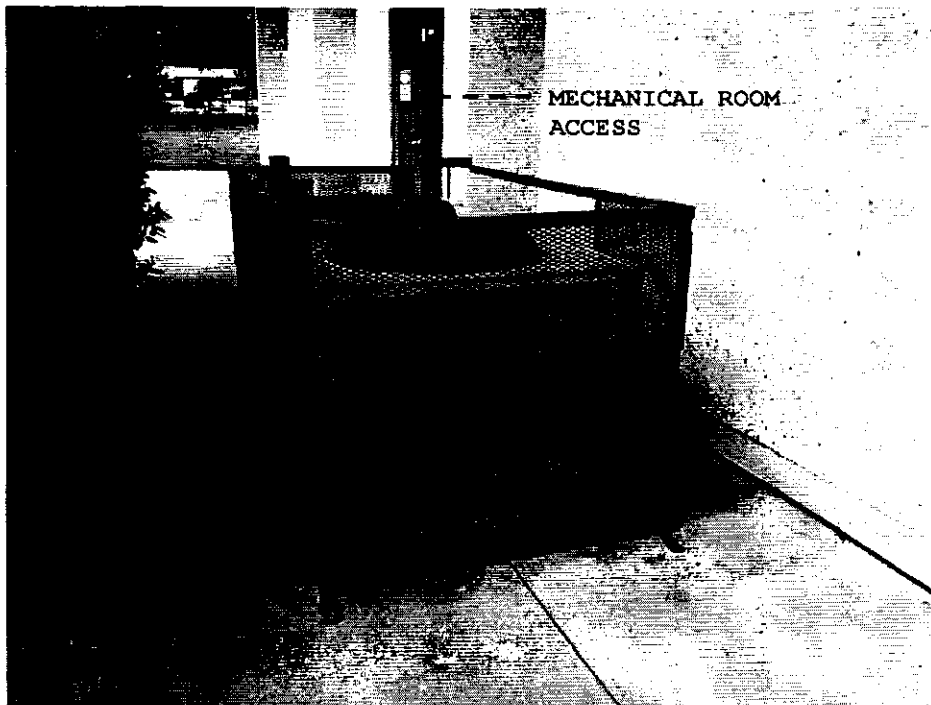


Figure 1: Outside condensing unit and protective cage



Figure 2: Inside blower unit